Construction of the Meteorological Datasets in National Meteorological Center of CHINA

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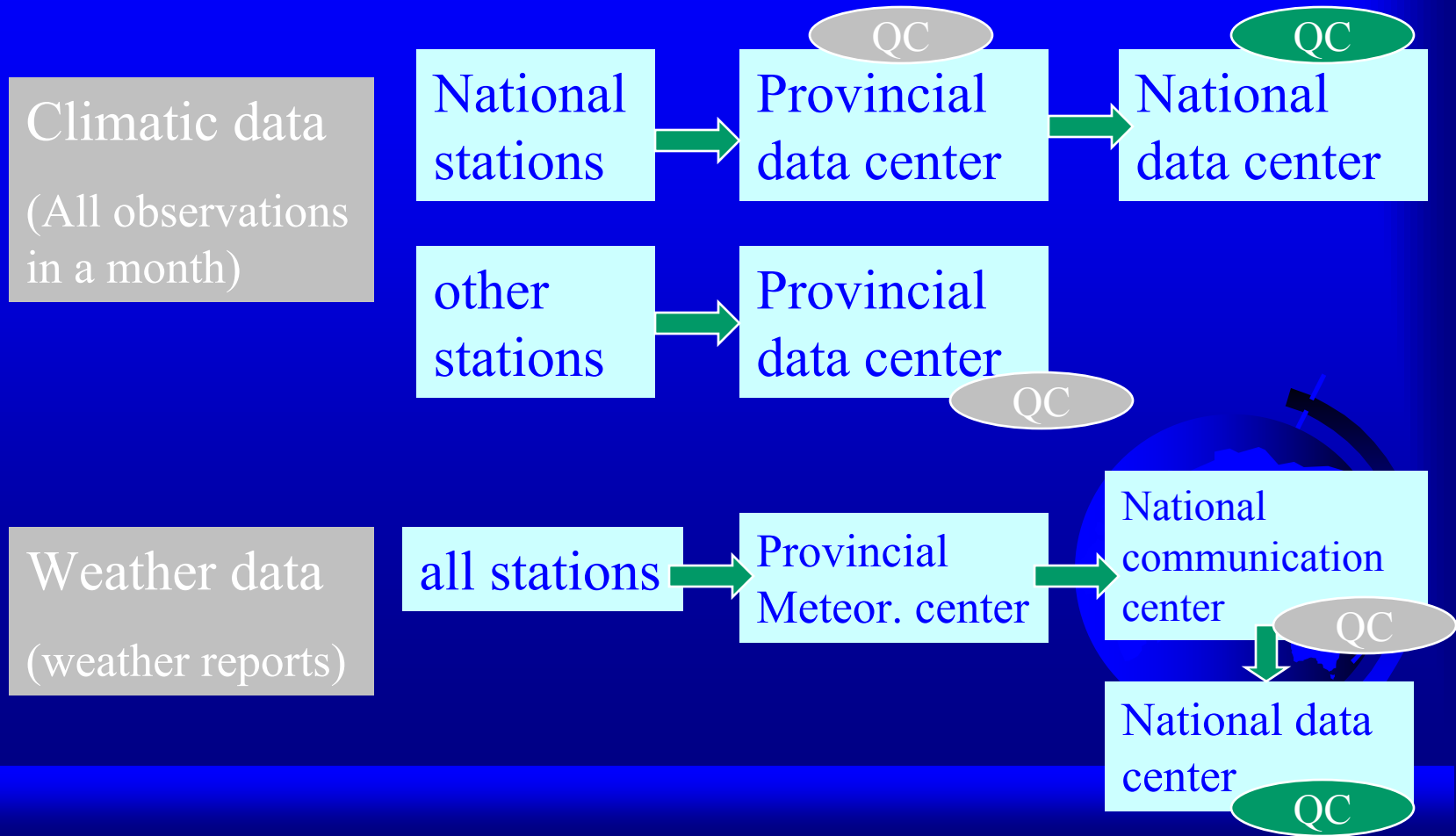
1. Review of data processing in China
2. Main dataset products
3. The related standards and rules of dataset developing
4. The quality control of the data

Review of data processing in China

Surface Observational data



Review of data processing in China

Upper air Observational data

Climatic data

(All observations in a month)

all stations → Provincial data center (QC) → National data center (QC)

Weather data

(weather reports)

all stations → Provincial Meteor. center → National communication center → National data center (QC)

Review of data processing in China

Radiation Observational data

All observations in a month

Review of data processing in China

The data processing in NMC include:

- Transform the observation of a month into a standard format
- Quality control for the data
- Statistics for developing climatological values
- Make the data into database
- Developing some datasets for sharing

Review of data processing in China

The process of developing datasets:

- Collect all archive of the kind of data
- Organize the data based on data classification rule
- Transform the data into a regular format
- Quality control
- Make the metedata and document for the data
- Form a dataset

A dataset

- Entity of data
- Metadata file
- Documentation file

Main dataset products

1. Surface observation meteorological dataset

- all the national stations （674）in CHINA
- Most of surface observation elements
- Hourly and daily,monthly, yearly statistics
- At period of 1951-2003

Main dataset products

2. Surface weather phenomena dataset

- all the national stations （674）in CHINA
- 18 weather phenomena(rainfall,snow,fog,sand dust,freeze,tornado,strong wind,….)
- Daily occurrence and its time
- At period of 1954 -2001

Main dataset products

3. Surface climatic normals（1961-1990，1971-2000）

- all the national stations （674）in CHINA
- 13 elemnets
- Dekadly,monthly and yearly normals
- base periods of 1961 –1990,1971-2000

Main dataset products

4. Upper-air radiosonde dataset

- all the radiosonde stations （120）in CHINA
- All upper-air elements in specified levels
- Two time a day, and monthly mean
- At period of 1951-2003

Main dataset products

5. Radiation dataset over China

- all the 98 radiation-observing stations in CHINA
- global radiation, direct radiation, scattered radiation, net radiation and reflected radiation
- Hourly and daily,monthly statistics
- At period of 1957-2003

Main dataset products

6. Agricultural meteorological dataset over China

- more than 600 national agrometeorological stations
- agrometeorological disasters, the growth of the crops and the crop outputs
- Dekadly and monthly
- At period of 1990-2003

Main dataset products

7. Global surface weather reports dataset
   - all the global surface weather stations
   - all of surface weather elements
   - 4 times a day
   - At period of 1980-2003
8. Global upper-air weather reports dataset
   - all the global radiosonde weather stations
   - all of upper-air weather elements
   - 2 times a day
   - At period of 1980-2003

The related standards and rules for datasets developing

The related standards and rules include:

- The rules of data sorting, coding and naming
- The rules of flows for dataset developing and archiving
- The format standard of the metadata
- The format of the documentation of the meteorological dataset

The related standards and rules for datasets developing

The rules of data sorting, coding and naming

In order to:

- How to classify the meteorological data
- How to code the data based on its classification
- How to name the dataset and file

The general class of meteor. data

Class(first level)	code	identification
Surface data	A	SURF
Upper-air data	B	UPAI
Ocean meteor. data	C	OCEN
Radiation data	D	RADI
Agrometeorological data	E	AGME
Numerical analysis and prodiction data	F	NAFP
Atmospheric components data	G	ATCM
proxy data	H	HPXY
Meteor. Disaster data	I	DISA
Meteor. Radar data	J	RADA
Meteor. satellite data	K	SATE
Scientific experiment data	L	SCEX
Operational Service output	M	SEVP
Other data	Z	OTHE

The related standards and rules for datasets developing

The format standard of the metadata

A metadata standard for Meteor. Dataset has been developed with references of ：

- WMO Core Metadata;
- ISO Geography information metadata standard (ISO 19115)
- Chinese sustainable development information core metadata dictionary

The format standard of the metadata in NMC

- Metadata entity set information
- Data set identification information
- Content information
- Data quality information
- Keywords information
- Data and DateTime information
- Geographic extent information
- Vertical extent information
- Temporal extent information
- Access rights or restrictions information
- Format information
- Distribution information

12 information parts

Total 79 items

Which include 25 obligation items

The quality control of the data

1 Quality check for surface,upper-air and radiation datasets

- format checking
- limit checking
- inner consistency checking
- temporal consistency checking
- vertical consistency checking, etc

2 Inhomogeneity test and adjustment

- For monthly surface temperature over china

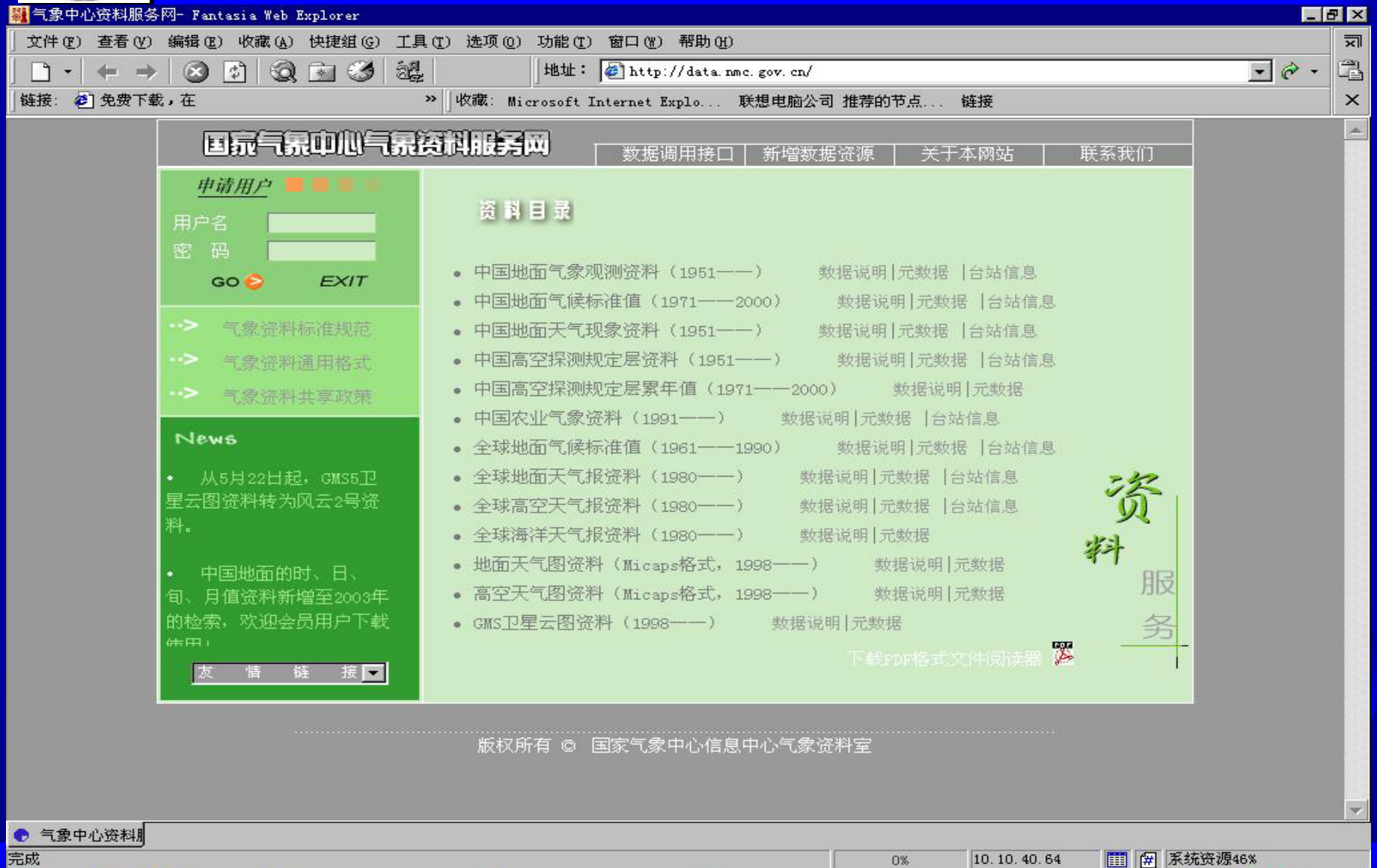
Services of the datasets

1 In the intranet of NMC of China, all datasets can be retrieved and downloaded online.

2 In the internet, all datasets metadata can be retrieved. Datasets can be gotten by registered user.

- Web Page(in Chinese): **CDC.CMA.GOV.CN**

The intranet web page for data sharing



The internet web page for data sharing

cdc.cma.gov.cn

THANKS !